UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 October 2007*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All   b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/30/07 has been entered.

Remarks

2.   Claims 1-27 are pending.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4.   Claims 10-19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per claims 10-19, these claims disclose a system but do not describe any hardware, which is required for a system claim to be statutory. Accordingly, these system claims are rejected as non-statutory for failing to disclose any hardware.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6.   Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tandon (Patent Number 6,233,587) in view of Holenstein et al. ('Holenstein' hereinafter) (Publication Number 2004/0133591 A1) and further in view of Kleewein et al.

('Kleewein' hereinafter) (Patent Number 5,953,719) and further in view of Bodamer et al.

('Bodamer' hereinafter) (Patent Number 6,226,649) and further in view of Cotner et al.

('Cotner' hereinafter) (Patent Number 5,553,234).

As per claim 1, Tandon leaches

A computer-implemented method for extending a database transaction to include

at least one user-defined operation that accesses a computer resource by means of a

Transaction Protocol describing a two-phase commit application programming interface

(API) that operates between a transaction manager and a resource manager coupled to

said computer resource for transaction processing distributed over computer systems,

said method comprising: (see abstract and background)

registering said operation and Transaction Protocol Interfaces used by said user-

defined operation with a database (modules registered, column 7,- lines 43-51, and

module provide support for XA transactions, column 12, lines 25-28);

executing said database transaction; (execute transaction, column 8, lines 10-

21);

enabling said database to operate as said Transaction Manager by means of

said Transaction Protocol,. wherein said Transaction Manager manages distributed

transactions by coordinating decisions about commit or rollback of pending transactions

and coordinating failure recovery; (support the protocol used by XA-compliant

transaction managers, column 7, lines 4-10; column 8, lines 10-21; column 12, lines 18-

28)

accessing said resource manager by said database operating as said

Transaction Manager (transaction managers and resource managers integrated,

column 8, lines 10-21; column 12, lines 18-28);

invoking said operation as part of said database transaction (resource manager

performs corresponding actions, column 8, line 42 through column 9, line 17);

recording with said database that said operation has been invoked to enable

triggering said database to invoke said Transaction Protocol Interfaces during commit

and rollback (mapping and writing to log, column 10, line 12 through column 12, line 5,

XA transactions, column 5, lines 25-28);

executing said invoked and recorded operation while executing said database

transaction (transaction events, column 8, line 42 through column 9, line 17);

accessing said computer resource in response to executing said invoked and

recorded ... operation by said resource manager, thereby extending said database

transaction (resource manager event, column 8, line 42 through column 9, line 17);

by said database invoking said Transaction Protocol Interfaces; (XA transactions,

column 12, lines 25-28)

and in response to performing a rollback of said database transaction, including

said ... operation in said rollback by said database invoking said Transaction Protocol

Interfaces. (transaction recovery, column 8, lines 55-68 and column 12, lines 25-28)

Tandon does not explicitly indicate "user-defined", "of said computer resource

accessed by said user-defined operation", "wherein said user-defined operation enables

a database operation to be extended with user-customizable features ".

However, Holenstein discloses "user-defined", "of said computer resource accessed by said user-defined operation", "wherein said user-defined operation enables a database operation to be extended with user-customizable features" (stored procedure, paragraph [0379]; note: Applicant also notes that in the background that many databases enable users to extend database operations with user-customizable features, page 1, line 32 through page 2, line 2, so this feature is already admitted by the applicant as well known in the art regardless).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Tandon and Holenstein because using the steps of "user-defined", "of said computer resource accessed by said user-defined operation", "wherein said user-defined operation enables a database operation to be extended with user-customizable features " would have given those skilled in the art the tools to improve the invention by allowing more control of the commit and rollback operations. This gives the user the advantage of having less chance for data corruption in the database.

Neither Tandon nor Holenstein explicitly indicate "in response to performing a commit of said database transaction, coordinating a commit".

However, Kleewein discloses "in response to performing a commit of said database transaction, coordinating a commit" (two-phase commit, column 6, lines 30-38).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Tandon, Holenstein, and Kleewein because using the

steps of "in response to performing a commit of said database transaction, coordinating

a commit" would have given those skilled in the art the tools to improve the invention by

allowing better use of computer resources in execution decisions using two-phase

commits. This gives the user the advantage of not having to wait longer periods for

rollbacks.

Neither Tandon, Holenstein nor Kleewein explicitly indicate "wherein said

computer resource accessed by said user-defined operation is external to said

database" nor "wherein said user-defined operation is invoked by user-defined query

code external to said database" nor "to roll back said computer resource" nor "and said

one or more database operations are atomic and are either completed with the commit

or rolled back".

However, Bodamer discloses "wherein said computer resource accessed by said

user-defined operation is external to said database" and "wherein said user-defined

operation is invoked by user-defined query code external to said database" (SQL is a

user-defined operation and SQL can control coded external routines, column 5, lines

20-30) and "to roll back said computer resource" (foreign server and two-phase commit,

column 15, lines 35-48) and "and said one or more database operations are atomic and

are either completed with the commit or rolled back" (foreign server and two-phase

commit, column 15, lines 35-48).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine Tandon, Holenstein, Kleewein, and Bodamer because

using the steps of " wherein said computer resource accessed by said user-defined

operation is external to said database" and "wherein said user-defined operation is

invoked by user-defined query code external to said database" and "to roll back said

computer resource" and "and said one or more database operations are atomic and are

either completed with the commit or rolled back" would have given those skilled in the

art the tools to improve the invention by allowing external routines to be coded to

provide more customization. This gives the user the advantage of having more control

over the process.

Neither Tandon, Holenstein, Kleewein, nor Bodamer explicitly indicate "wherein

said database transaction includes both said user-defined operation and one or more

database operations" nor "wherein results of said database transaction that includes

both said user-defined operation and said one or more database operations are atomic

and are either completed with the commit or rolled back, wherein said user-defined

operation accesses said computer resource that is external to said database".

However, Cotner discloses "wherein said database transaction includes both said

user-defined operation and one or more database operations" (external stored

procedures, column 2, lines 10-12; note: user-defined procedures contain database

operations) and "wherein results of said database transaction that includes both said

user-defined operation" (external stored procedures, column 2, lines 10-12) and

"wherein said user-defined operation accesses said computer resource that is external

to said database" (external stored procedures, column 2, lines 10-12).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine Tandon, Holenstein, Kleewein, Bodamer and Cotner

because using the steps of "wherein said database transaction includes both said user-defined operation and one or more database operations" and "wherein results of said database transaction that includes both said user-defined operation" and "wherein said user-defined operation accesses said computer resource that is external to said database" would have given those skilled in the art the tools to improve the invention by allowing external routines to be coded to provide more customization. This gives the user the advantage of having more control over the process.

As per claim 2,

Tandon and Holenstein do not explicitly indicate "said database transaction is a single-phase transaction".

However, Kleewein discloses "said database transaction is a single-phase transaction" (column 5, lines 13-30).

It would have been obvious to one of ordinary skill in the art to combine Tandon, Holenstein and Kleewein because using the steps of "said database transaction is a single-phase transaction" would have given those skilled in the art the tools to improve the invention by adaptively control which type of which type of commit protocol is used. This gives the user the advantage of having more choices to ensure data integrity.

As per claim 3,

Tandon and Holenstein do not explicitly indicate "said database transaction is a two-phase commit transaction".

However, Kleewein discloses "said database transaction is a two-phase commit transaction" (column 6, lines 30-38).

It would have been obvious to one of ordinary skill in the art to combine Tandon, Holenstein and Kleewein because using the steps of "said database transaction is a two-phase commit transaction" would have given those skilled in the art the tools to improve the invention by adaptively control which type of which type of commit protocol is used. This gives the user the advantage of having more choices to ensure data integrity.

As per claim 4,

Tandon and Holenstein do not explicitly indicate "executing said database transaction comprises an application program initiating said database transaction".

However, Kleewein discloses "executing said database transaction comprises an application program initiating said database transaction" (column 3, lines 17-29).

It would have been obvious to one of ordinary skill in the art to combine Tandon, Holenstein and Kleewein because using the steps of "executing said database transaction comprises an application program initiating said database transaction" would have given those skilled in the art the tools to improve the invention by enabling an application program. This gives the user the advantage of being able to call database procedures from a customized application.

As per claim 5, Tandon teaches

executing said database transaction comprises a transaction manager external to

said database initiating said database transaction (column 6, lines 19-37).

As per claim 6, <u>Tandon</u> teaches

said recording is completed with a Transaction Protocol Interface (column 12,

lines 18-28).

As per claim 7,

<u>Tandon</u> does not explicitly indicate "user-defined".

However, <u>Holenstein</u> discloses "user-defined" (stored procedure, paragraph

[0379]; note: Applicant also notes that in the background that many databases enable

users to extend database operations with user-customizable features, page 1, line 32

through page 2, line 2, so this feature is already admitted by the applicant as well known

in the art regardless).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine <u>Tandon</u> and <u>Holenstein</u> because using the steps of

"user-defined" would have given those skilled in the art the tools to improve the

invention by allowing more control of the commit and rollback operations. This gives the

user the advantage of having less chance for data corruption in the database.

<u>Tandon</u> and <u>Holenstein</u> do not explicitly indicate "said invoking said operation is

completed with a data access module".

However, Kleewein discloses "said invoking said operation is completed with a data access module" (column 4, lines 7-18).

It would have been obvious to one of ordinary skill in the art to combine Tandon, Holenstein and Kleewein because using the steps of "said invoking said user-defined operation is completed with a data access module" would have given those skilled in the art the tools to improve the invention by enabling synchronization of multiple databases. This gives the user the advantage of insuring the integrity of distributed databases.

As per claim 8, Tandon teaches

said resource manager manages a distributed computer resource (column 6, lines 19-37).

As per claim 9, Tandon teaches

"said resource manager manages a local computer resource" (column 6, lines 19-37).

As per claim 10-18,

This claim is rejected on grounds corresponding to the arguments given above for rejected claim 1-9 and is similarly rejected.

As per claim 19-27,

This claim is rejected on grounds corresponding to the arguments given above

for rejected claim 1-9 and is similarly rejected.

Response to Arguments

7.   Applicant's arguments with respect to claim 1-27 have been considered but are

moot in view of the new ground(s) of rejection.

Conclusion

8.   The prior art made of record, listed on form PTO-892, and not relied upon is

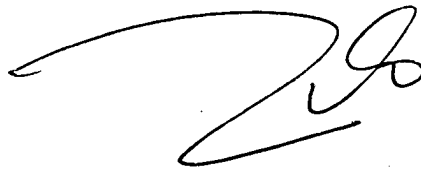considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jay A. Morrison whose telephone number is (571) 272-

7112. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tim Vo can be reached on (571) 272-3642. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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